Abstract- Scientific - A Pilot Study of Concurrent Docetaxel and a Pox-Vaccine Versus Vaccine Followed by Docetaxel in Metastatic Androgen Independent Prostate Cancer

Weekly docetaxel has been shown to have activity against androgen independent prostate cancer (AIPC). However, most patients who initially respond to this therapy alone will eventually die with disease progression. Recombinant Vaccinia-PSA (rV-PSA, PROSTVAC) has been evaluated for safety in three separate Phase I clinical trials in men with prostate cancer. There was minimal toxicity seen in all three studies. In the study performed by Eder at the Dana Farber 6/10 patients receiving the MTD with sargramostim had a time to PSA progression of > 6 months. Four of these six patients at time of publication still showed no progression with the longest time of follow-up greater than 24 months. All patients had enrolled with a rising PSA. Out of 7 patients who were tested for immunologic responses, 5 demonstrated greater than 2-fold increase in PSA specific T-cell precursors. Recently published preclinical work has shown that taxane based chemotherapy can enhance the antitumor response of vaccines in mice. This benefit appeared to be schedule dependent. Our study is a pilot of to determine if weekly docetaxel plus a PSA based immunotherapy strategy enhances PSA specific T cell responses greater than vaccine alone in patients with metastatic incurable AIPC. The vaccination regimen is composed of (1) recombinant vaccinia virus that expresses the Prostate Specific Antigen gene (rV-PSA) admixture, (2) recombinant vaccinia virus that expresses B7.1 costimulatory admixture (rV-B7.l), and (3) sequential vaccinations with recombinant fowlpox virus containing the PSA gene (rF-PSA). In addition patients on one arm will receive docetaxel 30 mg/m^2, repeated in 28-day cycles, comprising weekly treatments for three consecutive weeks followed by one week off. Patients who progress on the vaccine alone will commence docetaxel alone using the same schedule. This is a small pilot study, which explores the impact of the addition of docetaxel chemotherapy to a vaccine regimen using the ELISPOT assay. Based on the preclinical activity of taxane/vaccine combinations if a robust immunologic response is seen with the combination of both therapies in this pilot, we will follow this trial with a larger study using clinical endpoints.